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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/297,399	04/29/1999	MASARU MIYAMOTO	3404/0F546-U	9716

7590 12/04/2002

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EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 12/04/2002

25

Please find below and/or attached an Office communication concerning this application or proceeding.

AS 23

Office Action Summary

Application No.

09/297,399

Applicant(s)

MIYAMOTO, MASARU

Examiner

Callie E. Shosho

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1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 5-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 5-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. All outstanding rejections except for those described below are overcome by applicants' amendment filed 11/13/02.

In light of the use of new reference against the present claims, namely, JP 08073787 and Lin (U.S. 5,281,261), the finality of the previous office action has been withdrawn and thus, the following rejection is non-final.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-2 and 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 6346014 in view of Shay et al. (U.S. 5,478,602) and either JP 08073787 and Lin (U.S. 5,281,261) or JP 54138732.

JP 6346014 discloses a water based ink composition for ball-point pens which comprises pigment, polar solvent comprising water and other solvent (such as ethylene glycol), pH controlling agent, and 0.01-10% thickener which swells in an alkaline medium resulting in an increase in viscosity of the ink (claim 1, page 4, line 23-page 5, line, page 5, lines 12-13, page 7, lines 5-14, page 7, line 24-page 8, line 5, and page 8, lines 9-10). Although there is no explicit disclosure that the thickener is associative, given that the thickener swells in an alkaline medium as presently claimed, it is clear that the thickener is inherently associative as presently claimed.

The difference between JP 6346014 and the present claimed invention is the requirement in the claims of (a) specific type of thickener and (b) pigment surface treated with a resin and surfactant.

With respect to difference (a), Shay et al. disclose the use of associative thickener comprising carboxyl group and hydrophobic group wherein the hydrophobic group includes linear hydrocarbon, halogenated alkyl, organosilicon, and fluorinated carbon groups. It is disclosed that the thickeners are suitable for use in any aqueous composition including ink. The motivation for using such thickener is that it is highly efficient, better resists hydrolysis, and provides better rheology (col.1, lines 51-56, col.2, lines 55-57 and 62-64, col.3, lines 4-5 and 45-60, col.5, lines 66-67, col.6, lines 39 and 53-55, col.7, lines 26-28 and 39, col.13, line 10).

In light of the motivation for using specific associative thickener disclosed by Shay et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such thickener in the ink of JP 6346014 in order to produce an ink which has desired rheology, and thereby arrive at the claimed invention.

With respect to difference (b), JP 54138732, which is drawn to a writing ink composition, discloses the use of pigments surface treated with resin. The treated pigment is then mixed with surfactant which will result in pigment treated with polymer and surfactant as presently claimed. The motivation for using such pigments is that impart excellent stability and water-resistance to the ink compositions (claim, page 1, second paragraph, page 2, first full paragraph, page 3, second full paragraph, and application example 1).

Evidence to support examiner's position that the pigment of JP 54138732 is treated with both polymer and surfactant is found in Lin which discloses grafting polymer onto pigment

followed by mixing this treated pigment with surfactant. Lin discloses that the surfactants coat or adsorb onto the surfaces of the present particles not occupied by polymer (col.7, lines 40-42, col.9, lines 15-26, and col.11, lines 34-40). Similarly, the pigments of JP 54138732 are also treated with both polymer and surfactant.

Alternatively, pending translation, it is noted that JP 08073787 discloses pigment surface treated with both polymer and surfactant wherein the motivation for using such pigment is that it produces dispersion with pigment which possesses stable particle diameter regardless of temperature.

In light of the motivation for using a surface-treated pigment disclosed by either JP 54138732 or JP 08073787 as described above, it therefore would have been obvious to one of ordinary skill in the art to use this type of pigment in the ink of JP 6346014 in order to produce an ink that has excellent stability and water-resistance, or alternatively, produce ink which possesses pigment with stable particle diameter, and thereby arrive at the claimed invention.

Response to Arguments

4. Applicants' arguments regarding Kobayashi et al. (U.S. 4,822,417) have been considered but they are moot in view of the discontinuation of the use of this reference against the present claims.

5. Applicants' arguments filed 11/13/02 have been fully considered, but with the exception of arguments relating to Kobayashi et al., they are not persuasive.

Specifically, applicants argue that there is no disclosure in JP 5413872 of treating pigment particles with polymer and surfactant as presently claimed.

However, it is noted that while JP 5413872 does disclose graft polymerizing polymer onto pigment, the reference also discloses mixing such treated pigment with surfactant (see application examples). It is clear that mixing the treated pigment with surfactant will result in pigment treated with both polymer and surfactant as presently claimed. Evidence to support this position is found in Lin which discloses grafting polymer onto pigment followed by mixing this treated pigment with surfactant. Lin discloses that the surfactants coat or adsorb onto the surfaces of the present particles not occupied by polymer (col.7, lines 40-42, col.9, lines 15-26, and col.11, lines 34-40).

Given that page 2, lines 13-15 of JP 5413872 disclose that the polymer is grafted to only some of the pigment surface, it is clear that when the treated pigment is mixed with surfactant in JP 5413872, the surfactant will adsorb to the non-treated areas of the pigment and produce pigment treated with polymer and surfactant as presently claimed.

Thus, it is the examiner's position that JP 5413872 remains a relevant reference against the present claims.

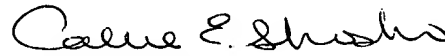
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 703-305-0208. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone numbers for the

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organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Callie E. Shosho

Examiner

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CS

November 26, 2002